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STANDPOINT FOR THE INTERPRETATION OF SAVAGE SOCIETY¹

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I

The general acceptance of an evolutionary view of life and the world has already deeply affected psychology, philosophy, morality, education, sociology, and all of the sciences dealing with man. This view involves a recognition of the fact that not a single situation in life can be completely understood in its immediate aspects alone. Everything is to be regarded as having an origin and a development, and we cannot afford to overlook the genesis and the stages of change. For instance, the psychologist or the neurologist does not at present attempt to understand the working or the structure of the human brain through the adult brain alone. He supplements his studies of the adult brain by observations on the workings of the infant mind, or by an examination of the structure of the infant brain. And he goes farther than this from the immediate aspects of his problem—he examines the mental life and the brain of the monkey, the dog, the rat, the fish, the frog, and of every form of life possessing a nervous system, down to those having only a single cell;

¹ Introductory chapter from *A Source Book for Social Origins: Psychological Standpoint, Ethnological Materials, and Classified Bibliographies for the Interpretation of Savage Society*. The University of Chicago Press. To be published September 15, 1909.

and at every point he has a chance of catching a suggestion of the meaning of brain structure and of mind. In the lower orders of brain the structure and meaning are writ large, and by working up from the simpler to the more complex types, and noting the modification of structure and function point by point, the student is finally able to understand the frightfully intricate human organ, or has the best chance of doing so. Similarly the biological sciences practice a rigid genetic and comparative method. They recognize life as a continuum, and they pay more attention to its simpler manifestations, perhaps, than to its higher, because the beginning of the whole process is most significant. They are there nearer to the source and secret of life itself.

But it is a somewhat singular fact that while the social sciences have been profoundly influenced by the theory of evolution as developed by the biologists, and have imitated the methods developed by the biological sciences in the study of plant and animal life, they have generally failed to connect their studies of society with the researches of anthropology and ethnology, that is, with those sciences which stand between biology and civilization. And yet the lessons which the sciences dealing with man in historical time have to learn from the life of the lower human races are even more important than those which they have learned from biology.

It is of course entirely proper for the student to limit himself even very narrowly to a special field in order to work it intensively, but the historian, for instance, who begins the study of human activity with Greece and Rome or even with Assyria and Egypt, cuts himself off as completely from the beginnings of his own subject as would the psychologist who neglected all study of child-psychology and of animal mind, or the biologist who attempted to understand bird or insect life without a knowledge of the stages of life lying below these. Indeed, when we consider that the human race is one, that human mind is everywhere much the same, and that human practices are everywhere of the same general pattern, it appears that the neglect of the biologist or psychologist to study types of life lower than those in which he is immediately interested could hardly be so serious as the neglect

of the historian to familiarize himself with the institutional life of savage society.

This failure of the social sciences to regard human life and human history as a whole, and to perceive the significance of the savage for any study of civilization has been touched upon by Professor Robinson in his brilliant essay on *History*, and I quote his words extensively, particularly since they introduce the question of a modification of the method of viewing historical materials:

"Fifty years ago it was generally believed that we knew something about man from the very first. Of his abrupt appearance on the freshly created earth and his early conduct, there appeared to be a brief but exceptionally authoritative account. Now we are beginning to recognize the immense antiquity of man. There are paleolithic implements which there is some reason for supposing may have been made a hundred and fifty thousand years ago; the eolithic remains recently discovered may perhaps antedate the paleolithic by an equally long period. Mere guesses and impressions, of course, this assignment of millenniums, which appear to have been preceded by some hundreds of thousands of years during which an animal was developing with 'a relatively enormous brain case, a skilful hand and an inveterate tendency to throw stones, flourish sticks' and, in general, as Ray Lankester expresses it, 'to defeat aggression and satisfy his natural appetites by the use of his wits rather than by strength alone.' There may still be historians who would argue that all this has nothing to do with history;—that it is 'prehistoric.' But 'prehistoric' is a word that must go the way of 'preadamite,' which we used to hear. They both indicate a suspicion that we are in some way gaining illicit information about what happened before the foot lights were turned on and the curtain rose on the great human drama. Of the so-called 'prehistoric' period we of course know as yet very little indeed, but the bare fact that there was such a period constitutes in itself the most momentous of historical discoveries. The earliest, somewhat abundant, traces of mankind can hardly be placed earlier than six thousand years ago. They indicate, however, very elaborate and ad-

vanced civilization and it is quite gratuitous to assume that they represent the first occasions on which man rose to such a stage of culture. Even if they do, the wonderful tale of how the conditions of which we find hints in Babylonia, Egypt, and Crete came about is lost.

"Let us suppose that there has been something worth saying about the deeds and progress of mankind during the past three hundred thousand years at least; let us suppose that we were fortunate enough to have the merest outline of such changes as have overtaken our race during that period, and that a single page were devoted to each thousand years. Of the three hundred pages of our little manual the closing six or seven only would be allotted to the whole period for which records, in the ordinary sense of the word, exist, even in the scantiest and most fragmentary form. Or, to take another illustration, let us imagine history under the semblance of a vast lake into whose rather turbid depths we eagerly peer. We have reason to think it at least twenty-five feet deep, perhaps fifty or a hundred; we detect the very scantiest remains of life, *rara et disjecta*, four or five feet beneath the surface, six or seven inches down these are abundant, but at that depth we detect, so to speak, no movements of animate things, which are scarcely perceptible below three or four inches. If we are frank with ourselves we shall realize that we can have no clear and adequate notion of anything happening more than an inch,—indeed, scarce more than half an inch below the surface.

"From this point of view the historian's gaze, instead of sweeping back into remote ages when the earth was young, seems now to be confined to his own epoch. Rameses the Great, Tiglath-Pileser, and Solomon appear practically coeval with Caesar, Constantine, Charlemagne, St. Louis, Charles V, and Victoria; Bacon, Newton, and Darwin are but the younger contemporaries of Thales, Plato, and Aristotle. Let those pause who attempt to determine the laws of human progress or decay. It is like trying to determine, by observing the conduct of a man of forty for a month, whether he be developing or not. Anything approaching a record of events does not reach back for

more than three thousand years and even this remains shockingly imperfect and unreliable for more than two milleniums. We have a few, often highly fragmentary, literary histories covering Greek and Roman times, also a good many inscriptions and some important archeological remains; but these leave us in the dark upon many vital matters. The sources for the Roman Empire are so very bad that Mommsen refused to attempt to write its history. Only in the twelfth and thirteenth centuries do the mediaeval annals and chronicles begin to be supplemented by miscellaneous documents which bring us more directly into contact with the life of the time.

"Yet the reader of history must often get the impression that the sources of our knowledge are, so to speak, of a uniform volume and depth, at least for the last two or three thousand years. When he beholds a voluminous account of the early Church, or of the Roman Empire, or observes Dahn's or Hodgkin's many stately volumes on the Barbarian invasions, he is to be pardoned for assuming that the writers have spent years in painfully condensing and giving literary form to the abundant material which they have turned up in the course of their prolonged researches. Too few suspect that it has been the business of the historian in the past not to condense but on the contrary skilfully to inflate his thin film of knowledge until the bubble should reach such proportions that its bright hues would attract the attention and elicit the admiration of even the most careless observer. One volume of Hodgkin's rather old fashioned 'Italy and her Invaders,' had the scanty material been judiciously compressed, might have held all that we can be said to even half-know about the matters to which the author has seen fit to devote eight volumes.

"But pray do not jump to the conclusion that the historical writer is a sinner above all men. In the first place, it should never be forgotten that he is by long tradition a man of letters, and that is not, after all, such a bad thing to be. In the second place he experiences the same strong temptation that everyone else does to accept, at their face value, the plausible statements

which he finds, unless they conflict with other accounts of the same events or appear to be inherently improbable.

"To take an illustration of Nietzsche's, the vague feeling, as we lie in bed, that the soles of our feet are free from the usual pressure to which we are accustomed in our waking hours demands an explanation. Our dream explanation is that we must be flying. Not satisfied to leave its work half done, dream logic fabricates a room or landscape in which we make our aerial experiments. Moreover just as we are going to sleep or awaking we can often actually observe how a flash of light, such as sometimes appears on the retina of our closed eyes, will be involuntarily interpreted as a vision of some human figure or other object, clear as a stereopticon slide. Now anyone can demonstrate to himself that neither dream logic nor the 'mind's-eye faculty,' as it has been called, desert us when we are awake. Indeed they may well be, as Nietzsche suspects, a portion of the inheritance bequeathed to us, along with some other inconveniences, by our brutish forebears. At any rate they are forms of aberration against which the historian, with his literary traditions, needs specially to be on his guard. There are rumors that even the student of natural science sometimes keeps his mind's eye too wide open, but he is by no means so likely as the historian to be misled by dream logic. This is not to be ascribed necessarily to the superior self-restraint of the scientist but rather to the greater simplicity of his task and the palpableness of much of his knowledge. The historian can almost never have any direct personal experience of the phenomena with which he deals. He only knows the facts of the past by the traces they have left. Now these traces are usually only the reports of someone who commonly did not himself have any direct experience of the facts and who did not even take the trouble to tell us where he got his alleged information. This is true of almost all the ancient and mediaeval historians and annalists. So it comes about that 'the immense majority of the sources of information which furnish the historian with starting points for his reasoning are nothing else than traces of psychological operations,' rather than direct traces of the facts.

"To take a single example from among thousands which might be cited, Gibbon tells us that after the death of Alaric in 410 'the ferocious character of the Barbarians was displayed in the funeral of the hero, whose valour and fortune they celebrated with mournful applause. By the labor of a captive multitude they forcibly diverted the course of the Busentinus, a small river that washes the walls of Consentia. The royal sepulchre, adorned with the splendid spoils and trophies of Rome, was constructed in the vacant bed; the waters were then restored to their natural channel, and the secret spot, where the remains of Alaric had been deposited, was forever concealed by the inhuman massacre of the prisoners who had been employed to execute the work.' The basis of this account is the illiterate 'History of the Goths' written by an ignorant person, Jordanes, about a hundred and forty years after the occurrence of the supposed events. We know that Jordanes copied freely from a work of his better instructed contemporary, Cassiodorus, which has been lost. This is absolutely all that we know about the sources of our information.

"Shall we believe this story which has found its way into so many of our textbooks? Gibbon did not witness the burial of Alaric nor did Jordanes, upon whose tale he greatly improves, nor did Cassiodorus who was not born until some eighty years after the death of the Gothic king. We can control the 'psychological operation' represented in Gibbon's text, for he says he got the tale from Jordanes, but aside from our suspicion that Jordanes took the story from the lost book by Cassiodorus we have no means of controlling the various psychological operations which separate the tale as we have it from the real circumstances. We have other reasons than Jordanes' authority for supposing that Alaric is dead, but as for the circumstances of his burial we can only say they may have been as described, but we have only the slightest reason for supposing that they were. The scope for dream logic and the mind's-eye faculty as well as for mistakes and misapprehensions of all kinds is in such cases infinitely greater than when one deals with his own impressions,

which can be intensified and corrected by repeated observations and clarified by experiment.

"It should now have become clear that history can never become a science in the sense that physics, chemistry, physiology, or even anthropology, is a science. The complexity of the phenomena is appalling and we have no way of artificially analyzing and of experimenting with our facts. We know absolutely nothing of any occurrences in the history of mankind during thousands of years and it is only since the invention of printing that our sources have become in any sense abundant. Historical students have moreover become keenly aware of the 'psychological operations' which separate them from the objective facts of the past. They know that all narrative sources, upon which former historians so naïvely relied, are open to the gravest suspicion and that even the documents and inscriptions which they prize more highly are nevertheless liable to grave misinterpretation."

I think, then, we must frankly despair of ever reconstructing the past history of man in a complete and particularistic fashion. Whether certain incidents transpired as is set down in the records or handed down in tradition we can never know. The folk-mind is highly imaginative and anecdotal. It has always possessed the appetite for the sensational, the morbid, and the marvelous which is at present so successfully catered to by the yellow section of the daily press. It has created many picturesque situations, but it is not an organ for scientific observation.

I suppose it is even true that the myth, superstition, and magical practice of the savage have a more certain value for the study of the history of man than the written record. The printed page is deceitful, but the myth cannot deceive. What it narrates is not true, but the student is not deceived. And the mere existence of the myth is one of the great facts in this history of mind which must be recognized if we are to understand the present state of social consciousness. This is a point on which Professor Tylor has insisted. And as the historian abandons or relaxes his effort to establish a particular order of incidents in the past and turns his attention rather to the estab-

lishment of certain general principles of change, he will find himself greatly assisted by a knowledge of the life of the non-civilized races. It is true that the savage never became civilized, and the claim is sometimes made that he therefore has no significance for the study of civilization. But the animal never became human, and it is far from true that the animal on that account has no significance for psychology. And the savage is much closer to the white than the animal is to man. Indeed I believe that the reader who divests himself as far as possible of prepossessions and race-prejudice and reads the selections in this volume, especially those in Part II, will conclude that the savage is very close to us indeed, both in his physical and mental make-up and in the forms of his social life. Tribal society is virtually delayed civilization, and the savages are a sort of contemporaneous ancestry.

I do not, of course, wish to belittle the effort of the historian to establish his facts, but to the young person who is planning to go into history, economics, civics, education, or psychology, I do wish to make this suggestion: If he will plan his work with reference to gaining (1) a sound and comprehensive knowledge of biology, (2) an even more particular knowledge of psychology, and (3) a very intimate knowledge of anthropology and ethnology, he will find himself in possession of an apparatus which will enable him to do a rare class of work in his special field. It is for such a person that this volume is prepared, quite as much as for the student of sociology.

II

But I wish chiefly at this point to indicate a standpoint which will assist the student in the interpretation of the materials in the body of this volume, and which he can bring to bear also on the literature indicated in the bibliographies.

There have been many notable attempts to interpret the social process in terms of so-called elemental or dominant social forces. Among these may be mentioned Tarde's "imitation," Gumpłowicz's "conflict," Durkheim's "constraint," De Greef's "contract," and Giddings' "consciousness of kind." Now it is evident

that the social process is a complex, and cannot be interpreted by any single phrase. It includes all of the forces mentioned above, and more. "Imitation" is a powerful social factor, but it is hardly more important than inhibition. The "thou shalt not's" have played a large rôle in the life of the race, as they do still in the life of the individual. Similarly "conflict" and "contract" offset each other, and "consciousness of kind" is hardly more conspicuous as a social force than consciousness of difference. The reader who is interested in theories of the social process will find them fully discussed in Professor Small's *General Sociology*.

There is, however, a useful concept into which all activity can be translated, or to which it can at least be related, namely, *control*. Control is not a social force, but is the object, realized or unrealized, of all purposive activity. Food and reproduction are the two primal necessities, if the race is to exist. The whole design of nature with reference to organic life is to nourish the individual and provide a new generation before the death of the old, and the most elementary statement, as I take it, which can be made of individual and of social activity is that it is designed to secure that control of the environment which will assure these two results. I will illustrate my meaning by applying the concept of *control* to some of the steps in organic and social development.

The animal differs from the plant primarily in its superior control of the environment, secured through the power of motion. It does not wait for food, but goes after it. In this connection we have an explanation of the organs of sense and of prehension which characterize the animal. All the multitudinous and varied structures of animal life will, indeed, be found to answer to peculiar modes of control which are secured to the animal through them. In man the principle of motion and consequent control is extended through the use of animals and the various means of mechanical transportation which he has developed. With the use of free hands man immensely increased his control, through the ability to make and use weapons and tools. Fire is a very precious element in control, since through its use

man was able to transform inedible into edible materials, to smelt and forge iron, and to enlarge the habitable world by regulating the temperature of the colder regions. Mechanical invention is to be viewed as control. It utilizes new forces or old forces in new ways, making them do work, and assist man in squeezing out of nature values not before suspected, not within reach, or not commonly enjoyed. The gregariousness of animals and the associated life of men are modes of control, because numbers and co-operation make life more secure. Language is a powerful instrument of control, because through it knowledge, tradition, standpoint, ideals, stimulations, copies, are transmitted and increased. Forms of government are aids to control, by providing safety and fair play within the group and organized resistance to intrusions from without. Religion assists control, reinforcing by a supernatural sanction those modes of behavior which by experience have been determined to be moral, i. e., socially advantageous. Art aids control by diffusing admirable copies for imitation, with the least resistance and the maximum of contagion. Play is an organic preparation and practice for control. Marriage secures better provision and training to children than promiscuity. Medicine keeps the organism in order or repairs it. Liberty is favorable to control, because with it the individual has opportunity to develop ideas and values by following his own bent which he would not develop under repression. The human mind is pre-eminently the organ of manipulation, of adjustment, of control. It operates through what we call knowledge. This in turn is based on memory and the ability to compare a present situation with similar situations in the past and to revise our judgments and actions in view of the past experience. By this means the world at large is controlled more successfully as time goes on. Knowledge thus becomes the great force in control, and those societies are the most successful and prosperous in which the knowledge is most disseminated, most reliable, and most intensive. This is the sense in which knowledge is power. And as to morality, if we should single out and make a catalogue of actions which we are accustomed to call laudable and virtuous, we should see that they

can all be stated from the control standpoint. But I will not multiply instances, and I need not point out that all conflict, exploitation, showing off, boasting, gambling, and violation of the decalogue, are designed to secure control, however unsuccessful in the end.

There is, however, a still more serviceable standpoint for the examination of society and of social change, and that is *attention*. This is by no means in conflict with the category of *control*. Control is the end to be secured and attention is the means of securing it. They are the objective and subjective sides of the same process. Attention is the mental attitude which takes note of the outside world and manipulates it; it is the organ of accommodation. But attention does not operate alone; it is associated with habit on the one hand and with crisis on the other. When the habits are running smoothly the attention is relaxed; it is not at work. But when something happens to disturb the run of habit the attention is called into play and devises a new mode of behavior which will meet the crisis. That is, the attention establishes new and adequate habits, or it is its function to do so.

Such conditions as the exhaustion of game, the intrusion of outsiders, defeat in battle, floods, drought, pestilence, and famine illustrate one class of crisis. The incidents of birth, death, adolescence, and marriage, while not unanticipated, are always foci of attention and occasions for control. They throw a strain on the attention, and affect the mental life of the group. Shadows, dreams, epilepsy, intoxication, swooning, sickness, engage the attention and result in various attempts at control. Other crises arise in the conflict of interest between individuals, and between the individual and the group. Theft, assault, sorcery, and all crimes and misdemeanors are occasions for the exercise of attention and control. To say that language, reflection, discussion, logical analysis, abstraction, mechanical invention, magic, religion, and science are developed in the effort of the attention to meet difficult situations through a readjustment of habit, is simply to say that the mind itself is the product of crisis. Crisis also produces the specialized occupations. The medicine-man, the priest, the law-giver, the judge, the ruler, the physician,

the teacher, the artist and other specialists, represent classes of men who have or profess special skill in dealing with crises. Among the professions whose connection with crisis is least obvious are perhaps those of teacher and artist. But the teacher is especially concerned with anticipating that most critical of periods in the life of the youth when he is to enter manhood and be no longer supported by others; and art always arises as the memory of crisis.

Of course a crisis may be so serious as to kill the organism or destroy the group, or it may result in failure or deterioration. But crisis, as I am employing the term, is not to be regarded as habitually violent. It is simply a disturbance of habit, and it may be no more than an incident, a stimulation, a suggestion. It is here that imitation plays a great rôle. But it is quite certain that the degree of progress of a people has a certain relation to the nature of the disturbances encountered, and that the most progressive have had a more vicissitudinous life. Our proverb, "Necessity is the mother of invention," is the formulation in folk-thought of this principle of social change.

The run of crises encountered by different individuals and races is not, of course, uniform, and herein we have a partial explanation of the different rate and direction of progress in different peoples. But more important than this in any explanation of the advanced and backward races is the fact that the same crisis will not produce the same effect uniformly. And in this connection I will briefly indicate the relation of attention and crisis to (1) the presence of extraordinary individuals in the group, (2) the level of culture of the group, and (3) the character of the ideas by which the group-mind is prepossessed:

1. Whatever importance we may attach to group-mind and mass-suggestion, the power of the attention to meet a crisis is primarily an individual matter, or at least the initiative lies with the individual. The group, therefore, which possesses men of extraordinary mental ability is at an advantage. The fleeing animal, for instance, is always a problem, and the resilience of wood is probably always observed, but the individual is not always present to relate the two facts, and invent the bow and arrow. If he

is present he probably, as Lewis Morgan suggests, raises his group to a higher level of culture by producing a new food epoch. The relation of the "great man" to crisis is indeed one of the most important points in the problem of progress. Such men as Moses, Mohammed, Confucius, Christ, have stamped the whole character of a civilization. The pride with which the German people refer to themselves as the "Volk der Dichter und Denker," and their extraordinary policy with respect to specialization, which has made the German university a model for other nations, are attributed largely to Fichte and his associates who, after the disastrous battle of Jena, preached a policy of scholarship as over against a policy of war. Similar cases of the reconstruction of the habits of a whole people by the dominating attention of a great man are found among the lower races. Dingiswayo and Chaka converted pastoral Zululand into a military encampment, as a result of witnessing the maneuvers of a regiment of European soldiers in Cape Colony. And Howitt's *Native Tribes of South East Australia* has interesting details on the influence of extraordinary men in a low race.

2. The level of culture of the group limits the power of the mind to meet crisis and readjust. If the amount of general knowledge is small and the material resources scanty, the mind may find no way out of an emergency which under different conditions would be only the occasion for further progress. If we could imagine a group without language, numbers, iron, fire, and without the milk, meat, and labor of domestic animals, and if this group were small, as it would necessarily be under those conditions, we should have also to imagine a very low state of mind in general in the group. In the absence of mathematics, fire, and iron, for example, the use of electricity as a force would be out of the question. The individual mind cannot rise much above the level of the group-mind, and the group-mind will be simple if the outside environmental conditions and the antecedent racial experiences are simple. On this account it is just to attribute important movements and inventions to individuals only in a qualified sense. The extraordinary individual works on the material and psychic fund already present, and if the situation

is not ripe neither is he ripe. From this standpoint we can understand why it is almost never possible to attribute any great modern invention to any single person. When the state of science and the social need reach a certain point a number of persons are likely to solve the same problem.

3. The character of the accommodations already made affects the character of the accommodation to the new crisis. When our habits are settled and running smoothly they much resemble the instincts of animals. And the great part of our life is lived in the region of habit. The habits, like the instincts, are safe and serviceable. They have been tried, and they are associated with a feeling of security. There consequently grows up in the folk-mind a determined resistance to change. And there is a degree of sense in this, for while change implies possibilities of improvement it also implies danger of disaster, or a worse condition. It must also be acknowledged that a state of rapid and constant change implies loss of settled habits and disorganization. As a result, all societies view change with suspicion, and the attempt to revise certain habits is even viewed as immorality. Now it is possible under these conditions for a society to become stationary, or to attempt to remain so. The effort of the attention is to preserve the present status rather than to reaccommodate. This condition is particularly marked among the savages. In the absence of science and a proper estimation of the value of change, they rely on ritual and magic, and a minute, conscientious, unquestioning, and absolute adhesion to the past. Change is consequently introduced with a maximum of resistance. Some African tribes, for example, have such faith in fetish that they cannot be induced to practice with firearms. If, they say, the magic works, the bullet will go straight; otherwise it will not. Similarly, oriental pride in permanence is quite as real as occidental pride in progress, and the fatalistic view of the Mohammedan world, the view that results are predetermined by Allah and not by man, is unfavorable to change. Indeed, the only world in which change is at a premium and is systematically sought is the modern scientific world. It is plain therefore that

the nature of the reaction of attention to crisis is conditioned by the ideas which prepossess the mind.

It is, of course, possible to overwork any standpoint, but on the whole I think that the best course the student can follow is to keep *crisis* constantly in mind—the nature of the crisis, the degree of mental and cultural preparation a people has already attained as fitting it to handle the crisis, and the various and often contradictory types of reaccommodation effected through the attention. In this way he will be able to note the transition of blood-feud into law, of magic into science, of constraint into liberty, and, in general, the increasing determination of conduct in the region of the reason and the cerebral cortex instead of the region of habit and the spinal cord.

III

Finally, I wish to warn the student to be suspicious of what may be called the particularistic explanation of social change. Some years ago, when it was the habit to explain everything in terms of "the survival of the fittest," an ingenious German scholar put forth the theory that the thick crania of the Australians were due to the fact that the men treated the women with such violence as to break all the thin heads, thus leaving only thick-headed women to reproduce. A still more ingenious German offered as an explanation of the origin of the practice of circumcision the desire of certain tribes to assure themselves that there should be no fraud in the collection of trophies in battle. This was assured by first circumcising all the males of one's own tribe. Under these circumstances certitude was secured that any foreskins brought in after battle with uncircumcised enemies could not have been secured from the slain of one's own party. Lippert, the great culture-historian, has argued that the presence or absence of the milk of domestic animals has sealed the fate of the different races, pointing out that no race without milk has ever risen to a high level of culture. He is also responsible for the suggestion that man took the idea of a mill for grinding, with its upper and nether mill-stones, from the upper and lower molars in his own mouth. Pitt-Rivers says that the idea of a

large boat might have been suggested in time of floods, when houses floated down the rivers before the eyes of men. I think that even the eminent ethnologists Mason and McGee err in this respect when they suggest the one that "the hawks taught men to catch fish, the spiders and caterpillars to spin, the hornet to make paper, and the cray-fish to work in clay" (see *infra* p. 35), and the other that plants and animals were first domesticated in the desert rather than in humid areas, because in unwatered regions plants, animals, and men were in need of one another and showed a greater tolerance and helpfulness (see *infra* pp. 66, 73). In fact a variorum edition of the theories of the origins of culture would be as interesting as Mr. Furness' variorum edition of *Hamlet*, which, while it was not, I believe, prepared with that in view, is yet one of our great storehouses of amusement.

Some of these theories are simply imaginative and absurd, and others are illustrations of the too particularistic. Doubtless milk is a very precious possession, but so also is iron. No race ever attained a considerable level of culture in the absence of iron. And it would be possible to name a number of things which races of high culture possess and races of low culture do not possess. The idea of crushing, pounding, and rubbing is much too general to warrant us in saying that the idea of the mill is derived from the human mouth. When man has once a floating log, bark boat, or raft, he can enlarge it without assistance from floating houses. The growth of plant life and the idea of particular attention to it are too general to depend on any particular kind of accident, or on a desert environment. Animals follow the camp for food, they are caught alive in traps, and the young ones are kept as pets; and this would happen if there were no desert regions. Two of Herbert Spencer's great and gross errors of this character—the derivation of all the learned and artistic occupations (even that of the dancer) from the medicine-man, and the assumption that ghost-worship is the origin of all spirit belief and worship (even of the worship of animals and plants) I have considered in Parts II and VI of this volume.

The error of the particularistic method lies in overlooking

the fact that the mind employs the principle of abstraction—sees general principles behind details—and that the precise detail with which the process of abstraction begins cannot in all cases be posited or determined. Thus the use of poison was certainly suggested to man by the occurrence of poison in nature, and in some crisis it occurred to man to use poison for the purpose of killing. And since the snake is the most conspicuous user of poison in nature it has usually been said that man gets his idea from the snake, and that the poisoned arrow-point is copied from the tooth of the poisonous snake. I have no doubt that this thing frequently happened in this way, but there are also various other poisons in nature. The deadly curare with which the Guiana Indian tips his tiny arrow is a vegetable product. The Bushmen use animal, vegetable, and mineral poisons, and a mixture of all of them, and the Hottentots manufacture poisons from the entrails of certain insects and from putrifying flesh. In short, assuming poison in nature and the arrow in the hands of man, we can assume the development of a poisoned arrow-point even if there had been no such thing as an envenomed serpent's tooth.

Neither can we look too curiously into the order of emergence of inventions nor assume a straight and uniform line of development among all the races. There have been serious attempts to determine what was the first weapon used by man. Was it a round stone, a sharp-pointed stone, a sharp-edged stone, or a stick? But all we can really assume is prehensibility and the general idea. The first weapon used was the object at hand when the idea occurred to man. Or, having any one of these objects in his hand, it used itself, so to speak, and the accident was afterward imitated.

The attempt to classify culture by epochs is similarly doomed to failure when made too absolutely. The frugivorous, the hunting, the pastoral, and the agricultural are the stages usually assumed. But the Indian was a hunter while his squaw was an agriculturist. The African is pastoral, agricultural, or hunting indifferently, without regard to his cultural status. And the ancient Mexicans were agricultural but had never had a pastoral

period. Different groups take steps in culture in a different order, and the order depends on the general environmental situation, the nature of the crises arising, and the operation of the attention. This is a sufficient comment on the theory, sometimes used in pedagogy, that the mind of the child passes through epochs corresponding to epochs of culture in the race. We have every reason to think that the mind of the savage and the mind of the civilized are fundamentally alike. There are, indeed, organic changes in the brain of the growing child, but these are the same in the children of all races. The savage is not a modern child, but one whose consciousness is not influenced by the copies set in civilization. And the white child is not a savage, but one whose mind is not yet fully dominated by the white type of culture. And, incidentally there was never a more inept comparison than that of the child with the savage, for the savage is a person of definitely fixed and specialized aims and habits, while the child, as Professor Dewey has expressed it, is "primarily one whose calling is growth," and who is consequently characterized by flexible and unspecialized habits. To be sure there is a certain rough parallelism between the mental development of the child and the course of civilization. The race began with motor activities and simple habits and civilization has worked itself onto a complex and artificial basis, with special emphasis on the reflective activities. The child also begins with hand and eye movements and is gradually and systematically prepared by society to operate in the more complex and reflective adult world. But that is all. In both child and race the motor activities precede the reflective, and this could not be otherwise, for consciousness is largely built up through the hand and eye movements.